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ABSTRACT

Findings from a three-county epidemiologic survey of 2,029 randomly selected respondents are presented. The authors examine the relationship between stressful life events, sociodemographic factors and rates of psychological disorder. A specific analysis of low socioeconomic status as the key to increased number of stressful life events experienced and therefore explanatory of high psychological disorder in low status groups is detailed. In particular, through the utilization of multiple regression analysis, the authors explore the relative impact of stressful life events and sociodemographic factors upon high psychological disorder for various groups. Further, the authors suggest that in addition to recognizing SES as one of the best predictors to date of psychological disorder, the inclusion of a stressful life events inventory in epidemiologic screening efforts increases significantly the power of screening instruments to predict rates of psychological disorder. (Author)

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STRESSFUL LIFE EVENTS AND SOCIODEMOGRAPHIC FACTORS: PREDICTORS OF PSYCHOLOGICAL DISORDER[1]

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ABSTRACT

Findings from a three-county epidemiologic survey of 2,029 randomly selected respondents are presented. The authors examine the relationships between stressful life events, sociodemographic factors and rates of psychological disorder. A specific analysis of low socioeconomic status as the key to increased number of stressful life events experienced and therefore explanatory of high psychological disorder in low status groups is detailed. In particular, through the utilization of multiple regression analysis, the authors explore the relative impact of stressful life events and sociodemographic factors upon high psychological disorder for various groups. Further, the authors suggest that in addition to recognizing SES as one of the best predictors to date of psychological disorder, the inclusion of a stressful life events inventory in epidemiologic screening efforts increases significantly the power of screening instruments to predict rates of psychological disorder.

INTRODUCTION

Interest in the relationships between stress and illness has accelerated in the past two decades among many social and medical scientists. Varied and voluminous researches by medical scientists, psychologists, epidemiologists, sociologists, and others have addressed themselves to the changing complex of factors which are directly related to physical and mental disorders and socially pathological behavior. The object of this research has been to identify and explain the processes by which stress-producing life events antecede and precipitate such disorders.

Cannon's (1929) initial efforts described the interrelatedness of basic emotional states (fear, anxiety, pain, anger) and changes in bodily functions. Adolph Meyer (1951), prominent American psychiatrist, emphasized the important role of life events in the development of physical and mental disorders, while Selye's (1956) significant work with laboratory animals explored the effects of stressful stimuli. The researches of Wolff (1950); Hinkle and Wolff (1958); Hinkle (1959) and their colleagues have studied the link between socio-environmental stressors and illness for a quarter of a

century. These and many other researches concerning stress and illness have been summarized by Eliot (1974), Syme and Reeder (1967), Jenkins (1971a,b), Dohrenwend (1971), Lehman (1967), Dohrenwend and Dohrenwend (1969), Lilienfeld (1965), Scotch and Geiger (1963), French (1963), and the Milbank Memorial Fund (1953, 1961).

Although most of the work on stress as related to illness has been general in nature, lacking adequate empirical basis for theoretical explanations, there has recently been a trend toward more empirical approaches. A number of scales have been developed to attempt to measure quantitatively the impact of certain types of stressful life events on health and social well-being (Rahe et al., 1964; Holmes and Rahe, 1967; Paykel et al., 1971).

In addition, efforts have been made to integrate our present knowledge into useful theoretical contructs (cf. McGrath, 1970; Levine and Scotch, 1970; Dohrenwend and Dohrenwend, 1969). Little research has been instituted to analyze the quantitative relationship between socio-demographic variables and exposure to life events, while a sizable body of evidence is accumulating which supports the notion that stressful life events exacerbate psychiatric symptoms among individuals in the general population (Coates et al., 1969; Dohrenwend, 1973; Myers, Lindenthal

and Pepper, 1971; Myers et al., 1972). Further research is needed to establish quantitatively the impact of stressful life events on various sociodemographic populations.

PURPOSE

This paper presents findings which attempt, first, to determine whether there are significant differences in the number of stressful life events experienced by various populations and, second, to analyze the impact that such events have on differing sociodemographic groups. Third, utilizing multiple regression analysis techniques, this paper further examines the hypothesized relationships between stressful life events, sociodemographic factors, especially socioeconomic status, and mental disorder.

DESIGN

We began by enumerating 101,219 households in a three-county area, drawing therefrom a random sample of 2,300 (2 percent) households. Utilizing a system of randomizing respondents within households developed by Kish (1965), trained people successfully interviewed 2,029 individuals 18 years of age and older. Our refusal rate was an extremely low 7.4 percent while an additional 4.4 percent could not be located or interviewed even though

interviewers "called back" to the selected household as many as six times. The rate of interviewed to non-interviewed is considered well within acceptable limits, especially since the size of the total sample provides high confidence levels.

A 403-item interview schedule was administered to the respondents in their homes. The schedule included items, scales and indices designed to elicit information regarding a very large number of social, general medical and psychiatric dimensions. These areas encompassed: (1) demographic data and information about the individual's social history; (2) information on familial patterns and other interpersonal networks; (3) data on life satisfactions and aspirations; (4) indices concerning religion, racial distance, anomie, and perceptions of social change; (5) a comprehensive general medical systems screen, specifying health problems, operations and so forth; (6) an exhaustive social psychiatric screen designed to elicit information about the respondent's mental health and social well-being--the Health Opinion Survey (HOS) and a modified life event scale were included as components of this section; (7) items concerning attitudes toward and utilization of general medical, psychiatric and social services.

MENTAL HEALTH MEASURES

We utilized seven different psychiatric scales, but will not present findings from all the scales here. We have chosen to outline the results obtained by the use of the HOS, a device used very widely in epidemiologic studies since its inception (Gurin et al., 1960; Prince et al., 1967; Edgerton et al., 1970; Schwab and Warheit, 1970; Warheit, 1973; Bell et al., 1975). And, though some question its scientific utility (Tousignant et al., 1974), its validity and reliability as an epidemiologic instrument were established by Goldfarb et al. (1967a,b), Moses et al. (1971), Warheit (1975). Moreover, our own validity studies compared both patient and non-patient HOS scores with a series of independent psychiatric measures, and our conclusion was that the HOS is an acceptable instrument from which one can obtain valid and reliable estimates of mental disorder (Warheit et al., 1975).

The HOS was developed by MacMillan (1957) for use in the Stirling County study, the results of which were reported by Leighton et al. (1963). The instrument, consisting of 20 items (Appendix A), was designed to measure psychological disorder which the Leightons defined as follows:

> We decided that defining a psychiatric disorder for us, would rest on judging an individual as a person who, if thoroughly studied by psychiatrists, would be diagnosed as suffering from one or more of the specific psychiatric conditions described in the Manual. (Leighton et al., 1963.)

The 20-item scale has a possible range of scores from 20 to 60 and the determination of mean scores for controlling variables is therefore possible. An added enhancing capability in the utilization of this scale is a "caseness" percentage. The Leightons established three categories (caseness) of psychiatric disorder based upon differential scores: the probable case, the possible case, and the non-case. It was judged that approximately 90 percent of those clinically rated as probable cases would be defined as cases if examined by a psychiatrist; those identified as possible cases were estimated as having a 70 percent chance of being identified as psychiatric cases while the non-case groups would have significantly less chance of being designated in this category.

STRESSFUL LIFE EVENTS INVENTORY

For a stressful life events inventory of high utility, we selected the work of Paykel et al. (1971), who attempted to replicate and extend the work of Holmes and Rahe. From the list of Paykel et al., of 61 scaled life events,

we selected the first 30 life events for our stressful life events inventory (Appendix B). These thirty items represent those events from the original Paykel scale which were considered most upsetting by both patients and non-patients.

FINDINGS

The data are presented in four ways: first, a general description of the distribution of stressful life events among the various sociodemographic groups; second, a description of psychological disorder among the various sociodemographic groups according to HOS mean scores and caseness percentages; third, an analysis of the relationship between the number of stressful life events and the associated HOS mean scores and caseness percentages; fourth, the presentation of preliminary multiple regression analyses. The latter enables us to review simultaneously the relative contributions of sociodemographic factors and life event variables. This permits a description and comparison of the shared and unique predictive power of sociodemographic factors and stressful life events as they are related to psychological disorder.

Stressful Life Events and Sociodemographic Factors

The findings on stressful life events are presented

for the following sociodemographic groups: (1) race-gender, (2) age, and (3) socioeconomic status.[1] In Table 1, the data are presented by mean scores for each of the various

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INSERT TABLE 1 ABOUT HERE

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groups, as well as percentages of each of the groups which report having "No Events," "2 Events, " "3 Events," and "4 or More Events" in the past year. For the total sample of 2,029, a mean of 1.02 stressful life events during the past year was reported. While 41.7 percent reported having "No Events," 30.6 percent reported have "1 Event," 16.1 percent reported "2 Events," 7.3 percent reported "3 Events," and 4.3 percent reported "4 or More Events."

An analysis of the race-sex groups reveals that whites report having fewer stressful life events than do blacks, a difference statistically significant at the $p<.001$ level. Of critical interest is the significant difference between the events reported by white females and those reported by black females: black females (1.42)

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[1]The measure of socioeconomic status used is very similar to the one developed by the Bureau of Census. Rank scores are determined for respondents on three items: income, education and occupation. These ranks are summed and a mean is determined. Persons are assigned a quintile ranking on the basis of their overall rank.

reporting the highest number of stressful life events and white females (.94) reporting the lowest number of stressful life events of all the four race-gender groups. A further analysis of the race-sex groups by "Percent Reporting Number of Life Events," shows two interesting findings. First, the black female appears to be at greatest risk, for in addition to having the highest mean score for stressful life events, she reports the largest percentages for the multiple events categories with 18.1 percent reporting "2 Events," 1.5 percent reporting "3 Events," and 8.1 percent reporting "4 or More Events," the latter figure being almost twice as high as for all the other race-sex groups.

An examination of the relationship of age to stressful life events shows differences among the various age categories that are statistically significant at the $p<.001$ level. The youngest age category, 16-22 years of age, shows a mean score 1.55, the highest mean score for all the various sociodemographic groups. Contrariwise, the age category of "60 and over" shows the lowest mean score for all the various sociodemographic groups. A brief examination of age by "Percent Reporting Number of Life Events" shows that, of those aged 60 or more years, almost 50 percent report having "No Events" in the last

year compared to approximately 30 percent in the 16-22 years category. Furthermore, over 46 percent of the 60-and-over group reported having 1 or 2 events and less than 5 percent claimed to have 3 or more events. The 16-22 years group, contrastingly, reports 25 percent experiencing 3 or 4 or more events.

An analysis of the relationship of SES to stressful life events shows that those in the lowest quintile have a mean score of 1.20 and as you move to succeeding quintiles there is a decrease in mean score for each quintile with the highest quintile having a mean score of 0.91. These differences in mean scores are statistically significant ($p<.05$) which would permit us to infer a disproportionate distribution of stressful life events according to SES quintiles. This is in accord with earlier findings of Dohrenwend (1973). It should be noted, however, that the level of significance is low, and an examination of the "Percent Reporting Number of Life Events" by SES reveals inconsistencies which complicate efforts to define trends or patterns.

Psychological Disorder and Sociodemographic Factors

The findings of psychological disorder are presented by HOS mean scores and caseness percentages for the following

sociodemographic groups: (1) race-sex, (2) age, and (3) SES. Table 2 presents the range of mean scores and percentage of caseness for each of the groups being analyzed. For the total sample of 2,029, the HOS mean score was 26.7 with

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INSERT TABLE 2 ABOUT HERE

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slightly more than 75 percent scoring in the "non-case" category, 13.7 percent in "possible cases," and 10.2 percent in the "probable case" range.

An examination of the race-sex group finds that females have higher mean scores than males, a difference that is statistically significant at the $p<.001$ level and, further, matched for sex, whites' mean scores are less than blacks'. Compared with the total sample, males (white, 80.5 percent; black, 79.0 percent) show greater percentages in the "non-case" category--a trend which is repeated in the "possible case" range. In the "probable case," however, the white male (7.9 percent) shows significantly lower percentages when compared to black male (11.0 percent), black female (11.3 percent), and finally to the white female (11.7 percent), who shows the highest percentage of "probable" caseness of the four race-sex groups.

Age and HOS scores present interesting differences

as the lowest age category (16-22 years) has the lowest score, 25.8, of all the age categories. As the age category increases in years, so do the mean scores. The highest age category has a mean score of 27.3 and these differences have a statistical significance at the $p<.001$ level. Also, an examination of the "Percent in Caseness Categories" shows that the lowest two age categories are very similar with respect to the percent in the "non-case" group, while the "45-59 years" and the "60-and-over" groups show significantly fewer in "non-case" group and, besides, significantly higher in the "probable case" category.

Socioeconomic status and HOS mean scores present a very clear picture. The differences in the mean scores for the various quintiles are statistically significant at the $p<.001$ level and those in the lowest quintile have the highest mean score (29.5), while those in the highest quintile have the lowest mean score (24.8). In addition, the inverse relationship of increasing SES and decreasing mean scores is statistically significant at the $p<.001$ level. An examination of the caseness categories shows that almost 42 percent of the lowest quintile were in "caseness" ranges while only 10.2 percent of the respondents in the highest quintile were within those ranges.

Stressful Life Events and Psychological Disorder

To examine the relationship between stressful life events and psychological disorder, Table 3 presents HOS mean scores and caseness percentages for the number of life events reported in various years. The data show distinct differences in the mean scores for the number of life

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INSERT TABLE 3 ABOUT HERE

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events reported within the various year categories. In the "Last Year" group, the 846 reports of "No Events" show a mean score of 25.8 and have only 19.5 in the Caseness (probable and possible) categories while those reporting "4 or More Events" have a mean score of 30.7 and 48.2 percent falling within the caseness range. Further, an examination of the data indicating the number of life events reported in the "Three Years," "Five Years," and "Ever" groups reveal substantially the same findings as in the "Last Year." The differences in the mean scores for the number of life events reported in the various year groups are all statistically significant at the $p<.001$ level. The Pearsonian correlations for each group (Last Year, $r=.22$; Three Years, $r=.25$; Five years, $r=.24$; Ever, $r=.37$) demonstrate a positive linear relationship

between mean scores and number of life events, a relationship statistically significant at the $p<.001$ level.

Multiple Regression Analysis

In order to control for each of the sociodemographic and life-events variables under analysis, a stepwise multiple regression was computed. The overall equation was statistically significant ($p<.001$). Among the variables studied, the following were signficant: SES, female, black, and life events. The R square for the equation was 0.1914 with 19.1 percent of the variance accounted for. Life events and SES were the most powerful predictors of HOS scores. Two additional regression equations were

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INSERT TABLE 4 ABOUT HERE

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computed, with life events being the independent variable in one equation and sociodemographics the independent variable in the other and HOS scores being the criterion variable on each. Life events accounted for about 13.6 percent of the variance and sociodemographics accounted for about 8.7 percent. If these two sets of variables were totally independent, then the two summed explained variances would account for approximately 22.3 percent of

the variance of the HOS scores. Taken in the same equation,

INSERT TABLE 5 ABOUT HERE

however, these variables account for 19.1 or, dependently, sociodemographics and life events share 3.2 percent of the variance while unique to sociodemographics is 5.5 percent of the explained variance and unique to life events is 10.4 percent of the explained variance. Stressful life events, when added to the regression equation and the interaction effects are accounted for, explain almost twice as much of the variance as do the sociodemographic factors.

DISCUSSION

Our results strongly suggest that there are quantifiable linkages among stressful life events, sociodemographic factors and psychological disorder. The relationships between these variables are extremely complex, however, and a single pattern is not discernible. For example, although white females have higher scores than white males on a scale designed to measure psychological disorder, they report fewer stressful life events. This indicates that the variable "femaleness" is an independent factor in accounting for high scale scores when life events are

controlled. And, to add to the complexity while black females reported a greater number of stressful life events than black males, these events were better predictors of high scale scores for black males than they were for black females. There were other unexpected findings as well, e.g., the relative amount of variance in scale scores explained by differing socioeconomic levels. The absence of an obvious pattern is somewhat confounding and it is apparent that additional analysis is in order. However, there are a number of important findings reported in this paper. One of the most significant of these is undoubtedly the fact that stressful life events, as an analytic category, accounts for more variance in HOS scores than does socioeconomic status. This finding, which is constant among all race-sex groupings, is important in itself; it adds to an increasing body of research literature which reports significant relationships between certain life events and psychological disorder. And, in addition, it is important because it adds to our knowledge about the etiology of certain types of mental illness. The relationships between low socioeconomic status and high rates of psychological disorder have been documented extensively in the literature. Dohrenwend and Dohrenwend (1969), for example, report it as the most

consistent finding to emerge from their summary of 44 different epidemiologic studies of psychological disorder. Similarly, Warheit et al. (1974), in an extensive review of the research literature on the subject between 1968 and 1974, reported the same finding. The data reported in this paper do not refute this generally known fact; they add further credence to it. The data presented do, however, add an additional dimension. Stressful life events, when permitted to enter a step wise multiple regression equation which included a number of sociodemographic variables (including socioeconomic ones) adds impressively to the total amount of variance explained. And, when further analysis was made, stressful life events represented the majority of unique variance accounted for when they and socioeconomic status variables were entered in a regression equation.

These findings strongly suggest that additional research on stressful life events and their relationships to psychological disorder needs to be pursued. As we move from epidemiologic studies which rely heavily on descriptive sociodemographic variables to verificational research which seeks to establish etiologic relationships between certain kinds of stress agents and mental disorders, it will be crucial to develop classifications of stressful

life events and to establish quantifiable relationships between them and differing kinds of disorder. This paper has added to the impetus for such research. In the process, it has added a new dimension to our understanding of the relationships between sociodemographic variables, stressful life events and psychological disorder.

TABLE 1

STRESSFUL LIFE EVENTS SCORES BY RACE-SEX, AGE AND SES
(EVENTS IN LAST YEAR)

	N	Mean	SD		Percent Reporting Number of Life Events				
					No Events	1 Event	2 Events	3 Events	4 or More Events
Totals	2029	1.05	1.24		41.7	30.6	16.1	7.3	4.3
Race-Sex									
White Male	745	1.08	1.31	ANOVA	41.2	31.8	14.2	7.8	5.0
White Female	1012	.94	1.12	F=8.42**	44.4	30.4	16.5	5.4	3.3
Black Male	100	1.25	1.25	df=3,2013	35.0	28.0	21.0	12.0	4.0
Black Female	160	1.42	1.46		31.9	29.4	18.1	12.5	8.1
Age									
16-22	204	1.55	1.47	ANOVA	29.9	26.5	18.6	13.7	11.3
23-29	245	1.31	1.45	F=22.62**	36.7	27.8	16.7	10.6	8.2
30-44	444	1.14	1.35	df=4,2020	40.1	30.4	15.3	9.0	5.2
45-59	461	1.04	1.19		39.9	32.1	18.7	6.7	3.3
60 and over	671	.75	.90		49.2	32.2	14.2	3.4	1.0
SES									
0-19	320	1.20	1.38	ANOVA	37.2	30.0	19.7	8.4	4.7
20-39	433	1.12	1.29	F=2.74*	41.1	29.3	13.6	10.6	5.3
40-59	582	.99	1.16	df=4,2024	42.6	31.4	15.8	5.7	4.5
60-79	469	1.01	1.26		44.6	28.4	16.2	6.8	4.1
80-99	225	.91	1.00		40.9	36.4	16.0	4.4	2.2

*p<.05
**p<.001

TABLE 2

HOS SCORES BY RACE-SEX, AGE AND SES

Groups	N	$\bar{X}$	SD		Percent in Caseness Categories 20-29[1]	30-34[2]	35+[3]
Total	2029	26.7	5.6		76.1	13.7	10.2
Race-Sex							
White Male	745	26.1	5.3	ANOVA	80.5	11.5	7.9
White Female	1012	27.2	5.7	F=6.0***	73.3	15.0	11.7
Black Male	100	26.6	6.1	df=3,2013	79.0	10.0	11.0
Black Female	160	27.3	5.8	r=.07*	71.3	17.5	11.3
Age							
16-22 years	204	25.8	4.1		85.5	10.8	3.4
23-29 years	245	25.7	5.1	ANOVA	82.4	11.4	6.1
30-44 years	444	26.2	5.3	F=7.4***	80.0	11.7	8.3
45-59 years	461	27.4	6.1	df=4,2020	74.4	12.6	13.0
60 years and over	671	27.3	5.9	r=.11**	69.7	17.3	13.0
SES							
0-19	320	28.5	6.9		58.1	20.0	21.9
20-39	433	28.0	6.0	ANOVA	67.0	18.2	14.8
40-59	582	26.1	5.2	F=43.7***	80.6	11.3	8.1
60-79	469	25.4	4.3	df=4,2024	84.9	10.7	4.5
80-99	225	24.8	3.8	r=-.27***	89.8	8.4	1.8

*p<.05
**p<.01
***p<.001

[1]=Non-Caseness
[2]=Possible
[3]=Probable

TABLE 3

HOS SCORES BY NUMBER OF STRESSFUL LIFE EVENTS

Number of Events	N	Mean	SD	Sig	Percent in Caseness Categories		
					20-29[1]	30-34[2]	35+[3]
Last Year							
None	846	25.8	5.1		80.3	12.1	7.6
1	621	26.4	5.1	ANOVA	78.3	14.0	7.7
2	326	28.0	6.2	F=27.1***	71.2	14.1	14.7
3	148	28.5	6.1	df=4,2024	69.6	13.9	15.5
4 or more	88	30.7	6.9	r=.22***	51.1	22.1	26.1
In 3 Years							
None	462	25.4	4.8		82.5	11.5	6.1
1	605	26.1	4.9	ANOVA	78.7	14.7	6.6
2	458	26.6	5.2	F=29.4***	77.9	11.4	10.7
3	250	27.7	6.2	df=5,2023	72.8	13.6	13.6
4	123	29.7	6.7	r=.25***	63.4	18.7	17.9
5 or more	131	30.8	6.9		54.2	23.3	24.0
In 5 Years							
None	248	25.4	5.0		81.5	10.5	8.1
1	514	25.6	4.7	ANOVA	82.3	12.8	4.9
2	509	26.5	5.3	F=22.0***	77.0	12.6	10.4
3	324	27.1	5.8	df=6,2022	75.6	13.0	11.4
4	198	28.1	6.0	r=.24***	70.7	16.2	13.1
5	107	28.4	6.2		70.1	16.8	13.1
6 or more	129	30.7	6.6		52.7	23.3	24.0

***p<.001

[1]=Non-Caseness
[2]=Possible
[3]=Probable

TABLE 3 (Cont'd)

HOS SCORES BY NUMBER OF STRESSFUL LIFE EVENTS

Number of Events	N	Mean	SD		Percent in Caseness Categories		
					20-29[1]	30-34[2]	35+[3]
Ever							
None	35	23.0	2.8		94.3	5.7	0.0
1	98	23.4	2.9		94.9	5.1	0.0
2	213	23.9	3.2	ANOVA	93.9	5.2	.9
3	397	25.0	4.3	F=33.2***	87.9	8.1	4.0
4	279	26.2	5.0	df=10,2018	77.3	10.5	5.7
5	291	26.8	5.2	r=.37***	77.3	11.7	11.0
6	241	27.9	5.9		69.3	17.8	12.9
7	174	28.1	6.2		67.2	18.4	14.4
8	239	28.8	6.0		66.2	15.1	18.7
9	101	29.4	6.1		56.4	18.8	24.8
10 or more	161	30.8	6.6		51.6	25.5	23.0

**p <.01
***p <.001

[1]=Non-Caseness
[2]=Possible
[3]=Probable

TABLE 4

PREDICTION OF HOS SCORES FROM
AGE, RACE, SEX, SES, AND STRESSFUL LIFE EVENTS (SLET)

Stepwise Multiple Regression

Regression Coefficients

	B	Standardized Beta	Standard Error B	F	Sig.
SLET	0.64365	0.33605	0.04003	258.501	p<.001
SES	-0.05743	-0.24714	0.00528	118.093	p<.001
FEMALE	0.85677	0.07574	0.24301	12.430	p<.001
BLACK	-0.83428	-0.04983	0.54868	2.312	p<.001
A26(AGE)	-0.02090	-0.07076	0.00650	10.329	p<.001
BLKFEM	-0.82916	-0.03995	0.68999	1.444	N.S.

Analysis of Variance

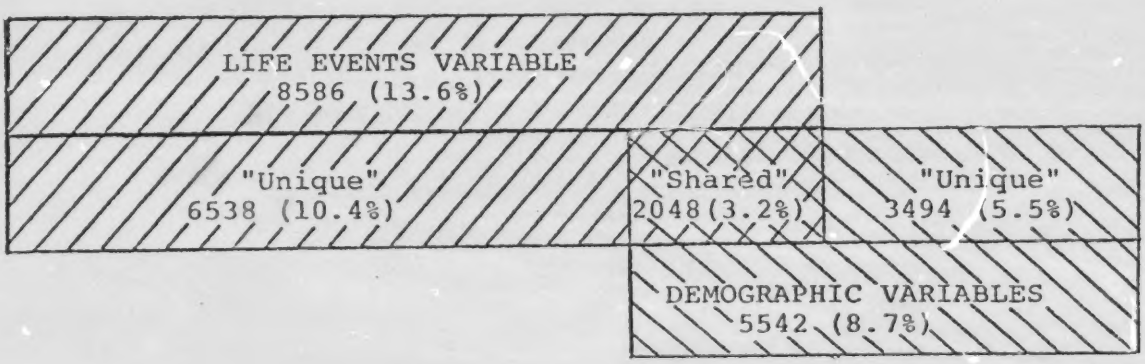
	df	Sum of Squares	Mean Square	F	Sig.
Regression	6.	12080.44981	2013.40830	79.60992	p<.001
Residual	2018.	51037.08303	25.29092		

Multiple R	0.43749
R Square	0.19140
Standard Error	5.02901

TABLE 5

INTERACTION OF LIFE EVENTS AND DEMOGRAPHIC FACTORS
IN RELATIONSHIP TO HOS SCORES

HOS Total SS 63117; Residual SS 51037
Regression SS 12080; R^2=.191 or 19.1% of
HOS Variance Explained by Regression



Life Events Variable	Demographic Variables
SLET, Total Stressful Life Events	Age
	*Race (Black BlkFem)
	*Sex (Female)
	SES, Socioeconomic Status
(Constant 26.84951)	*Dummy variables

APPENDIX A

HEALTH OPINION SURVEY

1. Do you have any physical health problems at present?
2. Do your hands ever tremble enough to bother you?
3. Are you ever troubled by your hands or feet sweating so that they feel damp and clammy?
4. Have you ever been bothered by your heart beating hard?
5. Do you tend to feel tired in the mornings?
6. Do you have any trouble getting to sleep and staying asleep?
7. How often are you bothered by having an upset stomach?
8. Are you ever bothered by nightmares (dreams which frighten you)?
9. Have you ever been bothered by "cold sweats?"
10. Do you feel that you are bothered by all sorts (different kinds) of ailments in different parts of your body?
11. Do you smoke?
12. Do you ever have loss of appetite?
13. Has any ill health affected the amount of work (housework) you do?
14. Do you ever feel weak all over?
15. Do you ever have spells of dizziness?
16. Do you tend to lose weight when you worry?
17. Have you ever been bothered by shortness of breath when you were not exerting yourself?
18. For the most part, do you feel healthy enough to carry out the things that you would like to do?
19. Do you feel in good spirits?
20. Do you sometimes wonder if anything is worthwhile anymore?

APPENDIX B

STRESSFUL LIFE EVENTS INVENTORY

Rank	Event	Mean	SD
1	Death of child	19.33	2.22
2	Death of spouse	18.76	3.21
3	Jail sentence	17.60	3.56
4	Death of close family member (parent, sibling)	17.21	3.69
5	Spouse unfaithful	16.78	4.14
6	Major financial difficulties (very heavy debts, bankruptcy)	16.57	3.83
7	Business failure	16.46	3.71
8	Fired	16.45	4.20
9	Miscarriage or stillbirth	16.34	4.59
10	Divorce	16.18	4.95
11	Marital separation due to argument	15.93	4.55
12	Court appearance for serious legal violation	15.79	4.26
13	Unwanted pregnancy	15.57	5.18
14	Hospitalization of family member (serious illness)	15.30	4.15
15	Unemployed for one month	15.26	4.38
16	Death of close friend	15.18	4.55
17	Demotion	15.05	4.57
18	Major personal physical illness (hospitalization or one month off work)	14.61	4.44
19	Begin extramarital affair	14.09	5.40
20	Loss of personally valuable object	14.07	4.90
21	Law suit	13.78	5.02
22	Academic failure (important exam or course)	13.52	5.07
23	Child married against respondent's wishes	13.24	5.36
24	Break engagement	13.23	5.31
25	Increased arguments with spouse	13.02	4.91
26	Increased arguments with resident family member	12.83	5.15
27	Increased arguments with fiance or steady date	12.66	4.96
28	Take a large loan (more than one-half of a year's earnings)	12.64	5.43
29	Son drafted	12.32	5.75
30	Arguments with boss or co-worker	12.21	5.06

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